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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,402

03/31/2004

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01/20/2006

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EXAMINER

ROJAS, BERNARD

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,402

Applicant(s)

LIMCANGCO, NAOMI O.

Examiner

Bernard Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 18-30 is/are pending in the application.
- 4a) Of the above claim(s) 25-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08022004 10252004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Embodiment 1, claims 1-10 and 18-24 in the reply filed on 10/14/05 is acknowledged.

Newly submitted claims 25-30 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the new claim set pertains to a method of transmitting a signal while to originally filed claims are directed to the structure of an electromechanical switch.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 25-30 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a bus, memory, a circuit, a processor, a network router, a wireless mobile phone and a personal digital assistant must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 23 and 24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-6, 18, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ma [US 6,529,093].

Claims 1 and 18, Ma discloses an electromechanical switch [601] comprising; a signal contact [605]; an actuation electrode [603]; a beam [602] to electrically couple to the signal contact when an actuating voltage is applied to the actuation electrode; and a coating [dielectric material, figures 6A-6C] to at least facilitate the existence of an arc reduction environment.

Claim 4, Ma discloses that the coating is disposed between the beam and at least one of a group consisting of the signal contact and the actuation electrode [figures 6A-6C].

Claims 5 and 20, Ma discloses that the coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact.

Claims 6 and 21, Ma discloses that the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions, and the coating is comprised of a material having a coefficient of secondary electron emission approximately lower than the coefficients of secondary electron emissions of the material over which it is applied [col. 4 line 35 to col. 5 line 15].

Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirakawa [US 6,115,231].

Claim 1, Shirakawa discloses an electromechanical switch [figure 2] comprising; a signal contact [5]; an actuation electrode [4]; a beam [10] to electrically couple to the signal contact when an actuating voltage is applied to the actuation electrode [figure 4]; and a coating [dielectric material, 21] to at least facilitate the existence of an arc reduction environment.

Claim 8, Shirakawa discloses a protuberance [22] disposed on a portion of the beam corresponding to the signal contact [figure 2]

Claims 1 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong [US 20040031670].

Claim 1, Wong discloses an electromechanical switch [figure 1] comprising; a signal contact [170]; an actuation electrode [160]; a beam [130] to electrically couple to the signal contact when an actuating voltage is applied to the actuation electrode; and a coating [dielectric material, 180] to at least facilitate the existence of an arc reduction environment.

Claim 8, Wong discloses a protuberance [150] disposed on a portion of the beam corresponding to the signal contact [figure 1]

Claim 9, Wong discloses that at least a portion of the coating is applied to the protuberance [paragraph 14].

Claim 10, Wong discloses that at least a portion of the coating comprises the protuberance [paragraph 14].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma [US 6,529,093] in view of Tourino et al. [US 6,809,412].

Claim 2, Ma discloses the claimed invention with the exception of enclosing the switch in a housing.

Tourino et al. teaches surrounding a mems device [20] in a protective enclosure created by a cap [28] coupled [by 30] to a substrate [10] to substantially enclose the signal contact, the actuation electrode, the beam [figure 6].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to enclose the switch of Ma in a protective housing as taught by Tourino et al. in order to create a protective covering [abs] to protect against foreign objects such as dirt and dust from disrupting the operation of the switch.

Claims 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma [US 6,529,093] in view of Wyse et al. [US 6,663,424].

Claims 3 and 19, Ma discloses the claimed invention with the exception of dielectric coating being a hydride.

Wyse et al. teaches that a hydride can be used as a dielectric coating [col. 3 lines 12-15].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a hydride as the dielectric material in the switch of Ma, since it was known in the art as a dielectric material as taught by Wyse et al.

Claims 7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma [US 6,529,093] in view of Duff, Jr [US 2004/0175561].

Claims 7 and 22, Ma discloses the claimed invention with the exception of dielectric coating being titanium.

Duff, Jr teaches that titanium can be used as a dielectric coating [paragraph 91].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a titanium as the dielectric material in the switch of Ma, since it was known in the art as a dielectric material as taught by Duff, Jr.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Br

Examiner
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